

In the Claims

1. (Original) An x-ray detector storage device comprising:
a storage bin sized to store at least one x-ray detector; and
a temperature regulator configured to adjust a temperature of a stored x-ray detector to a desired temperature.
2. (Previously Presented) The x-ray detector storage device of claim 1 wherein the storage bin is configured to store an x-ray detector that is detached from an x-ray scanner.
3. (Original) The x-ray detector storage device of claim 1 wherein the storage bin is remote from an x-ray scanner.
4. (Original) The x-ray detector storage device of claim 1 wherein the storage bin includes a data port to interface with a stored x-ray detector and route temperature data of the stored x-ray detector to the temperature regulator.
5. (Original) The x-ray detector storage device of claim 1 wherein the temperature regulator is configured to effectuate an increase or a decrease in the temperature of the stored x-ray detector to adjust the temperature of the x-ray detector to the desired temperature.
6. (Original) The x-ray detector storage device of claim 1 wherein the temperature regulator includes a controller configured to compare the temperature of the stored x-ray detector to the desired temperature and, from the comparison, determine a rate of temperature adjustment needed to bring the temperature of the stored x-ray detector to the desired temperature without placing thermal stress on internal components of the stored x-ray detector.
7. (Original) The x-ray detector storage device of claim 1 wherein the temperature regulator includes a thermo-electric cooling device to adjust the temperature of the stored x-ray detector.
8. (Original) The x-ray detector storage device of claim 7 wherein the thermo-electric cooling device is a Peltier device.

9. (Original) The x-ray detector storage device of claim 1 wherein the temperature regulator includes a compressor for passing compressed air about one or more outer surfaces of the stored x-ray detector.

10. (Original) The x-ray detector storage device of claim 1 wherein the temperature regulator includes a closed coolant circuit and a coolant source designed to circulate coolant about the stored x-ray detector.

11. (Original) The x-ray detector storage device of claim 1 wherein the temperature regulator includes one or more fans.

12. (Original) The x-ray detector storage device of claim 11 wherein the one or more fans is variable speed controllable.

13. (Original) The x-ray detector storage device of claim 1 wherein the temperature regulator includes a heat sink constructed to engage a heated surface of the stored x-ray detector.

14. (Original) The x-ray detector storage device of claim 1 wherein the storage bin is configured to store multiple x-ray detectors and wherein the temperature regulator is configured to independently adjust a temperature of the multiple x-ray detectors.

15. (Original) The x-ray detector storage device of claim 1 further comprising an LED constructed to provide a visual indication that a stored x-ray detector has a temperature substantially equivalent to the desired temperature.

16. (Original) An x-ray detector storage apparatus comprising:
a receptacle sized to receive an x-ray detector during non-use of the x-ray detector;
a temperature control interface connected to the receptacle and configured to provide feedback as to a temperature of an x-ray detector when the x-ray detector is disposed within the receptacle;

a thermal exchange system configured to regulate the temperature of an x-ray detector when the x-ray detector is disposed within the receptacle; and

a controller operationally connected to receive the feedback and control the thermal exchange system to reduce a difference between the temperature of an x-ray detector disposed in the receptacle and a desired temperature.

17. (Original) The apparatus of claim 16 wherein the thermal exchange system is configured to regulate thermal exchange with an x-ray detector using at least one of convection, conduction, and radiation.

18. (Original) The apparatus of claim 17 wherein the thermal exchange system includes one of a forced air exchange, a cold plate, a heat sink, and a thermo-electric cooling device.

19. (Original) The apparatus of claim 16 wherein the controller is further configured to control the thermal exchange system to transfer heat to the x-ray detector if the temperature of the x-ray detector is less than a desired temperature for data acquisition and remove heat from the x-ray detector if the temperature of the x-ray detector exceeds a desired temperature for data acquisition.

20. (Original) The apparatus of claim 16 configured to be remote from an x-ray scanner.

21. (Original) The apparatus of claim 16 further comprising a proximity sensor electronically connected to the controller and configured to provide feedback to the controller as to whether an x-ray detector is disposed in the receptacle.

22. (Original) The apparatus of claim 21 wherein the controller is further configured to repeatedly acquire temperature data from an x-ray detector deemed present in the receptacle.

23. (Original) The apparatus of claim 16 wherein the receptacle is further configured to receive a plurality of x-ray detectors.

24. (Original) The apparatus of claim 16 wherein the receptacle is sized to receive a flat panel, solid state x-ray detector.

25. (Original) An x-ray detector docking station comprising:
a storage bin sized to receive one or more flat panel x-ray detectors;
an interface configured to receive temperature data from a flat panel x-ray detector disposed in the storage bin; and
means for regulating a temperature of the flat panel x-ray detector based on temperature data received from the interface.

26. (Original) The x-ray detector docking station of claim 25 further comprising means for charging a battery of a stored flat panel x-ray detector.